

### REMARKS

Reconsideration of this application in view of the above amendments and following remarks is respectfully requested.

Claims 1-13, 15-17, and 19-33 are now pending. Claims 1, 4, 6, 7, 9, 12, 15-17, 19-22, 29, 30 and 32 have been amended. Claims 14 and 18 have been canceled.

#### ***Previous Office Action/Restriction Requirement***

The Office Action mailed October 14, 2004 has now been vacated as having been issued in error. Thus, the Office Action mailed April 8, 2005 (to which this response is directed) constitutes the first substantive action on the merits.

In view of Applicants' Supplemental Response mailed December 17, 2004, the Examiner considers the prior Restriction Requirement moot. Thus, claims 1-33 are presently pending, having been amended to recite a specific "core structure" (*see* 4/8/05 Office Action at page 3, line 8). Applicants do, however, reserve the right to continue prosecution of any and all canceled subject matter in a related continuation application.

#### ***Information Disclosure Statement***

Applicants thank the Examiner for considering and making of record the previously submitted Information Disclosure Statement.

#### ***Rejections Under 35 U.S.C. §112, Second Paragraph***

Various claims stand rejected under 35 U.S.C. §112, second paragraph, as indefinite for the reasons set forth in the Office Action at pages 3-7. For purpose of clarity, Applicants will address each of these issues in the order set forth in the Office Action.

Claim 1 has been amended to recite that the capsid binding moieties are the same or different and are functional binding residues of a compound of formula (I), as opposed to moieties "derived from" a compound of formula (I). By this amendment, Applicants have clarified the structure of the capsid binding moieties, thus obviating this ground of rejection.

Further, by specifying the structure of the capsid binding moieties, the Examiner's objection to dependent claims 2-22, 24-26, 30 and 32-33 has similarly been obviated.

Applicants have corrected a typographical error in claim 1, by replacing "C(I)O" with "C(O)O". Support for this amendment may be found at page 10, line 13, and Applicants thank the Examiner for noting this error.

Claim 4, as well as claims 5-12 which depend thereon, have been rejected for failing to further limit claim 1 by not reciting the non-polymeric backbone or core structure, and for not reciting the linking groups. As for the non-polymeric backbone or core, Applicants have amended claim 1 to recite that the two or more capsid binding moieties are covalently attached to a non-polymeric backbone or core. As for the linking groups, claim 7 recites the embodiment wherein the capsid binding moieties are attached to two or more linking groups, which in turn are attached to the non-polymeric backbone or core. Addition of this further limitation (*i.e.*, the linking groups) by way of dependent claim 7 is appropriate in this context.

Claim 13 stands rejected as indefinite with regard to the phrase "symmetrical dimer". Applicants respectfully disagree. One skilled in this field would readily appreciate the meaning of this phrase as representing a symmetrical non-polymeric backbone or core structure having the same capsid binding moieties attached thereto (via the same optional linker groups), such that the resulting compound is a symmetrical dimer. Such compounds are exemplified in the application as originally filed (*see, e.g.*, Compound No. 58, page 24, as well as numerous other compounds of this application). Accordingly, Applicants request that this ground of rejection be withdrawn.

Applicants have canceled claim 14 as duplicative with the structure now recited in claim 1. In view of this amendment, claim 15 has been amended to depend from claim 1 (as opposed to canceled claim 14).

Claim 18 has been canceled.

The phrase carboxylic acid "and derivatives thereof" has been rejected in claim 21. For purpose of clarity, Applicants have amended this claim by replacing the rejected language with the groups amide and ester. Support for this amendment may be found in the specification at page 15, line 14.

Claim 29 has been amended to more specifically recite the method of claim 27.

Applicants have amended claim 30 by omission of the words "or derivative".

A typographical error has been corrected in claim 32 (*i.e.*, "lable" has been changed to read "label").

Lastly, Applicants have amended claims 4, 6, 7, 9, 12, 15-17 and 19-22 for purpose of clarity and consistency with the claims from which they depend.

In view of the above amendments and remarks, Applicants submit that the pending claims satisfy the second paragraph requirements of §112, and request that this ground of rejection be withdrawn as applied to the currently amended claims.

### ***Rejection Under 35 U.S.C. §101***

Claim 29 stands rejected under 35 U.S.C. §101 as of improper format. As noted above, claim 29 has been amended to depend from claim 27, thus obviating this ground of rejection.

### ***Rejections Under 35 U.S.C. §102/103***

Some or all of the pending claims stand rejected under 35 U.S.C. §102(b) as anticipated by, and under 35 U.S.C. §103(a) as obvious over, six (6) separate patent documents; namely, (1) WO 99/29280 to McCarthy et al., (2) WO 99/29908 to Tsang et al., (3) U.S. Patent No. 5,637,708 to Hogle et al., (4) U.S. Patent No. 4,818,761 to Sato et al., (5) U.S. Patent No. 5,026,848 to Daneshtalab et al., and (6) U.S. Patent No. 6,355,807 to Tian et al. The Examiner's basis for these rejections are summarized on pages 8-16 of the outstanding Office Action, and are not repeated herein for purpose of brevity.

Based on Applicants' review of these references, it would appear that the Examiner has not fully appreciated the nature of the claimed subject matter. In this regard, it would appear that the Examiner considers each of the Ar<sup>1</sup> and Ar<sup>2</sup> groups of formula (I) to constitute a capsid binding moiety. This is not correct.

As explained in the specification at, for example, page 10, lines 5-16, the capsid binding moieties are derived from (*i.e.*, functional residues of) picornavirus capsid binding

compounds having the structure of formula (I). Each of the Ar<sup>1</sup> and Ar<sup>2</sup> groups represent optionally substituted aryl groups of a single capsid binding moiety. As recited in claim 1 of this application, the compound comprises two or more capsid binding moieties – that is, two or more moieties having the structure of formula (I) – covalently attached to a non-polymeric backbone or core.

None of the cited references teach or suggest a compound capable of binding a picornavirus capsid comprising *two or more capsid binding moieties having the structure of formula (I) covalently attached to a non-polymeric backbone or core*. Absent such a showing, Applicants respectfully submit that the pending claims are novel over the references cited by the Examiner, and that reliance on the same by the Examiner does not satisfy a *prima facie* showing of obviousness.

#### ***Double Patenting Rejection***

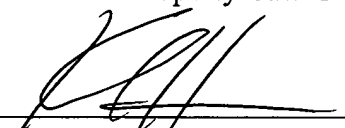
Lastly, claims 2-5, 9, 12 and 19-22 stand objected to as being substantially duplicative of claim 1. As amended, claim 1 recites a compound capable of binding to a picornavirus capsid comprising two or more capsid binding moieties covalently attached to a non-polymeric backbone or core, wherein the capsid moieties are the same or different and are functional binding residues of a compound of formula (I). Each of the objected claims depends directly or indirectly from claim 1, and more specifically and narrowly recites various aspects of claim 1. Thus, the objected claims are not duplicative of claim 1, but instead represent proper dependent claims. Accordingly, Applicants request that this ground of rejection be withdrawn.

***Summary***

In view of the above amendments and remarks, allowance of claims 1-13, 15-17 and 19-33 is respectfully requested. A good faith effort has been made to place this application in condition for allowance. However, should any further issue require attention prior to allowance, the Examiner is requested to contact the undersigned at (206) 622-4900 to resolve the same.

Respectfully submitted,

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